

Wearable Heart Rate Sensor Based on Wireless System for Heart Health Monitoring

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Abstract : Wearable biosensor systems can be designed and developed for health monitoring. There is much interest in both scientific and industrial communities established since 2007. Fundamentally, the cost of healthcare has increased dramatically and the world population is aging. That creates the need to harvest technological improvements with small bio-sensing devices, wireless-communication, microelectronics and smart textiles, that leads to non-stop developments of wearable sensor based systems. There has been a significant demand to monitor patient's health status while the patient leaves the hospital in his/her personal environment. To address this need, there are numerous system prototypes which has been launched in the medical market recently, the aim of that is to provide real time information feedback about patient's health status, either to the patient himself/herself or direct to the supervising medical centre station, while being capable to give a notification for the patient in case of possible imminent health threatening conditions. Furthermore, wearable health monitoring systems comprise new techniques to address the problem of managing and monitoring chronic heart diseases for elderly people. Wearable sensor systems for health monitoring include various types of miniature sensors, either wearable or implantable. To be specific, our proposed system able to measure essential physiological parameter, such as heart rate signal which could be transmitted through Bluetooth to the cloud server in order to store, process, analysis and visualise the data acquisition. The acquired measurements are connected through internet of things to a central node, for instance an android smart phone or tablet used for visualising the collected information on application or transmit it to a medical centre.

Keywords : Wearable sensor, Heart rate, Internet of things, Chronic heart disease

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